

Notice of Allowability

Application No.

10/779,783

Examiner

VIJAY SHANKAR

Applicant(s)

HOSAKA ET AL.

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/26/07.
2. ☒ The allowed claim(s) is/are 1-3,7,8,11,12,15,16,19-22, Renumbered as 1-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

VIJAY SHANKAR
Primary Examiner
Art Unit: 2629

Allowable Subject Matter

1. Claims 1-3,7-8,11-12,15-16,19-22 are allowed.
2. The following is an examiner's statement of reasons for allowance: Applicant's argument filed on 10-26-2007 is convincing. As argued by the applicant on pages 7-8, the uniquely distinct features a first detector that detects, on the basis of the image signal per unit time, a first gray level characterizing the brightness of an image; a variation-signal setting unit that sets a variation signal on the basis of the first gray level; and a second signal supplying unit that supplies the variation signal to the opposing electrode not shown or suggested by the prior arts Matsueda.
3. The following is an examiner's statement of reasons for allowance: The prior arts Matsueda fails to teach a drive circuit comprising: a first signal supplying unit that supplies an image signal to the pixel electrodes; a first detector that detects, on the basis of the image signal per unit time, a first gray level characterizing the brightness of an image; a variation-signal setting unit that sets a variation signal on the basis of the first gray level; and a second signal supplying unit that supplies the variation signal to the opposing electrode, the liquid crystal layer being driven by an effective voltage signal generated by modulating the image signal using the variation signal, and the variation-signal setting unit setting the variation signal so that the gray level of the effective voltage signal becomes greater than the gray level of the image signal in accordance with an increase in the first gray level as claimed in Claim 1.

4. The prior arts Matsueda fails to teach a drive method comprising: detecting a first gray level characterizing the brightness of an image on the basis of an image signal per unit time; setting, on the basis of a setting table defining the relationship between the first gray level and a variation signal, the variation signal based on the first gray level; and supplying the image signal and the variation signal to the pixel electrodes and the opposing electrode, respectively, thereby applying an effective voltage signal to the liquid crystal layer, the effective voltage signal being generated by modulating the image signal using the variation signal, the setting table defining the variation signal so that the gray level of the effective voltage signal becomes greater than the gray level of the image signal in accordance with an increase in the first gray level as claimed in Claim 7.

5. The prior arts Matsueda fails to teach a drive method comprising: detecting a second gray level characterizing the brightness of an image on the entirety of a display area on the basis of an image signal per unit time; detecting a first gray level characterizing the brightness of the image on the basis of the image signal supplied to the pixel electrodes in an area opposing each of the block electrodes per unit time; computing the gray level difference between the first gray level and the second gray level; setting, on the basis of a setting table defining the

relationship between the gray level difference and a variation signal, the variation signal for each of the block electrodes based on the gray level difference; and supplying the image signal and the variation signal to the pixel electrodes and the opposing electrode, respectively, thereby applying an effective voltage signal to the liquid crystal layer, the effective voltage signal being generated by modulating the image signal using the variation signal, the setting table defining the variation signal so that the gray level of the effective voltage signal becomes greater than the gray level of the image signal in accordance with an increase in the gray level difference as claimed in Claim 8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Withdrawn Claims 2,3,8,12,16 are rejoined now, because it variously read on Specie 1 to which claims 1, 7, 11 and 15 are generic. Therefore, Applicants request of rejoinder and allowance of withdrawn claims 2, 3, 8, 12 and 16 are granted, and withdrawn claims 2, 3, 8, 12 and 16 are entered and now allowed.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VIJAY SHANKAR whose telephone number is (571)272-7682. The examiner can normally be reached on M-F 7:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BIPIN SHALWALA can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VIJAY SHANKAR
Primary Examiner
Art Unit 2629

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/VS/